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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/780,996 | 02/18/2004 | Derek William Bamborough | 80044 | 2765 |

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12/30/2005

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EXAMINER

MCLENDON, SANZA L

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|---------------------------------------|--|--|
| Office Action Summary | Application No. 10/780,996 | Applicant(s) BAMBOROUGH ET AL. | |
| | Examiner Sanza L. McClendon | Art Unit 1711 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 17-22, 24-60, 63, 71 and 73-81 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 115, 17-22, 24-60, 63, 71- is/are allowed.
- 6) ☒ Claim(s) 73 and 79-81 is/are rejected.
- 7) ☐ Claim(s) 74-78 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

1. In response to the Amendment received on October 17, 2005, the examiner has carefully considered the amendments. The examiner acknowledges the cancellation of claims 16 and 23 and the addition of new claims 73-81. The claim rejection under 35 U.S.C. § 112, 2nd paragraph for claims 9 and 46 have been overcome by the amendment and has hereby been withdrawn for consideration.

Election/Restrictions

2. Claims 61-62, 64-70 and 72 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected of Groups II-V, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 17, 2005.

Terminal Disclaimer

3. The terminal disclaimer filed on October 17, 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Application numbers 10/780,987 and 10/780,989 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Arguments

4. Applicant's arguments, see Remarks/Amendment, filed October 17, 2005, with respect to the rejection(s) of claim(s) 1-14, 16, 18-33, 36-37, 40, 42-60, 63 and 71 under 35 USC 102(e) as being anticipated by Takizawa et al (6,783,850) and claims 1-2, 14, 28, 30-35, 42, 44-45, 47-60, 63 and 71 under 35 USC 102(b) as being anticipated by Martin et al (5,082,484) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Takizawa et al and Martin et al (5,082,484) for new claims 73 and 79-81.

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Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 73 and 79-81 are rejected under 35 U.S.C. 102(e) as being anticipated by Takizawa et al (6,783,850).

This claim is being interpreted as a pseudo product by process claim, wherein the product is the adhesive composition and the process is the contacting the tackifier resin product with the carrier stream. There is not a distinction between the tackifiers produced by the instantly claimed invention and those found in Takizawa et al. Accordingly the adhesive composition of Takizawa et al is deemed to anticipate at least claims 73 and 79-80.

Takizawa et al teaches acrylic pressure sensitive adhesives comprising 5 to 75 parts by weight of a acrylic polymer, 5 to 40 parts by weight of an

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acrylic tackifier resin and 20 to 90 parts by weight of acrylic monomers. Said acrylic polymer has tackiness at room temperature and a Tg in the range from 0 to -85 °C. Said polymer comprises at least 50% by weight of an (meth) acrylic ester monomer, such as found in column 10, lines 25-35. In addition, said polymer may be a copolymer prepared by polymerizing said (meth) acrylic ester with another copolymerizable monomer, such as found in columns 10-11, wherein acrylamides, vinylidene chloride, acrylonitrile, and others can be found.

The tackifier resin has a low molecular weight, preferably in the range between 10,000 and 2,000 and is prepared from (meth) acrylic esters, such as used in the polymer component. In addition, it is disclosed that said tackifier resin could be a copolymer of said (meth) acrylic acid ester monomer with another copolymerizable monomer, such as styrene or methylstyrene among others—see column 13, lines 35. Said copolymer tackifier resin preferably has a (meth) acrylic ester content of at least 50% by weight up to at least 90% by weight—see column 12. The examiner deems this means that the copolymerizable components can comprise at least 50% down to 10% by weight of the tackifier resin component, such as styrene. Additionally, said tackifier can have other functional groups, such as hydroxyl, carboxyl, or cycloaliphatic and others—see column 13, lines 40-45 and examples. Takizawa et al teaches said obtained tackifier resin is preferably polymerized to a 100% degree of polymerization—see column 15, lines 63-67. The examiner is interpreting this to mean having substantially no residual monomer content, thus anticipated applicant's low residual monomer concentration claims. Claims 31-32 are deemed to be anticipated because the KOH/g can be 0. In addition, the examiner deems the R&B softening point, the Gardner color, and the MMAP cloud point is inherent to the disclosed tackifier resin.

The pressure sensitive adhesive composition can additionally comprise other components, such as photoinitiators, crosslinking agents, inorganic substances, and other customary additives—see columns 16-17. Per preparation of the polymers in the examples teaches preparing acrylic copolymer syrups having a viscosity of at least 5000, while the copolymer itself had a Tg of -59 °C. In addition, per the examples Takizawa et al teaches mixing the radiation curable adhesive polymer component, the tackifier resin and other components, applying said mixture to a substrate and curing by exposure to ultraviolet radiation to obtain cured adhesive tape articles.

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7. Claims 73 and 79 are rejected under 35 U.S.C. 102(e) as being anticipated by Martin et al (5,028,484).

This claim is being interpreted as a pseudo product by process claim, wherein the product is the adhesive composition and the process is the contacting the tackifier resin product with the carrier stream. There is not a distinction between the tackifiers produced by the instantly claimed invention and those found in Martin et al. Accordingly the adhesive composition of Martin et al is deemed to anticipate at least claims 73 and 79.

Martin et al teaches pressure sensitive adhesives comprising (a) radiation polymerized polymer from acrylic monomers and (b) an aromatic polymeric tackifier resin. Said aromatic tackifier resin is a polystyrene resin, such as a poly t-butylstyrene resin. Martin et al teaches said tackifier resin can be functionalized with an acrylate, acid, or hydroxyl group. Per examples (see column 12 and table IV) Martin et al teaches making acrylic terminated t-butyl styrene polymer, adding it to a acrylic polymer pre-mixture/syrup, photoinitiator, and crosslinking agent to form a mixture, coating a substrate, and curing with ultraviolet radiation to form a cured adhesive article. In addition to these components it is disclosed in the reference customary additive can additionally be added, such as those found in column 8, lines 19-20, wherein plasticizers, coloring agents, among others taught. Said acrylate terminated tackifier is prepared used a radical initiator. Said acrylic polymer comprises from 50 to 95 parts by weight of one or more alkyl acrylate compounds, wherein said alkyl group has from 4 to 12 carbon atoms and from 0 to 15 parts by weight of one or more strongly polar monomers or about 0 to 30 parts by weight of one or more moderately polar monomers, which can be pre-polymerized to a viscosity from 500 to 50,000 cps, wherein at least the lower limits anticipate applicants ranges--see examples also. These can be found in column 4, wherein these appear to anticipate at least some of the instantly claimed monomers in the radiation curable polymer. While there is no disclosure of the Tg for the said polymer components, the monomers used to prepare said polymer when homopolymerized are known to have Tg's of 0 °C or less; therefore it is deemed said polymers of the reference inherently anticipate the claimed Tg's. Per the examples (see table III) the tackifier is added in amounts of 25 parts by weight, thus

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anticipating claims 56-57. Said tackifier resin has a number average molecular weight in the range from 300 to 2500, which anticipates claims 34-35. Said tackifier can be found in amounts from at least 15 to 35 parts by weight in the composition—see column 5, lines 25-30.

Allowable Subject Matter

8. Claims 1-60, 63, 71 are allowed.

9. The following is an examiner's statement of reasons for allowance: The primary reasons for allowance is the limitation defining the tackifier ash having a "residual monomer concentration of less than 600 ppm by weight based on the weight of the tackifier resin", wherein the tackifier comprises an aromatic monomer and at least one acrylate monomer as repeating units in a radiation curable composition comprising the composition as found in the instant claims. Additionally, the prior art made of record does not expressly teach, alone or in combination, a radiation curable adhesive composition as defined in the instant claims that comprises a tackifier resin that has been produced by the process of contacting said tackifier resin in a product resin stream with a carrier that removes a portion of at least one residual monomer for the tackifier resin product stream. Said adhesive composition as defined by the instant claims is deemed allowable in view of the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

10. Claims 74-78 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L. McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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